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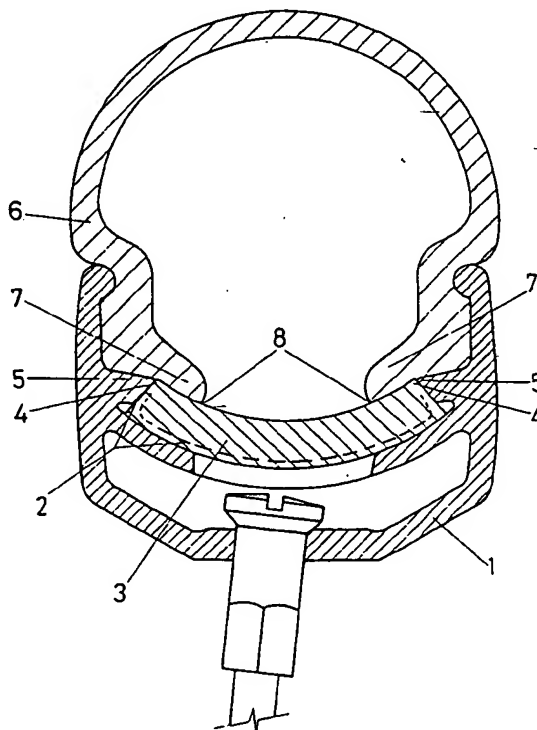
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I-10121 Torino (IT)(54) **Sealing device for tubeless radial spoke wheels.**

(57) The sealing device is intended for tubeless radial spoke wheels of the type where the rim (1) is provided with a fluting (2) to receive a rubber band (3). The fluting (2) substantially has been envisaged as "dovetailed" and fully stuffed with the rubber band (3) in a way forming a substantially levelled and smoothed top plane with projections (5) internally projecting from the rim (1) and making up the seat of beads (7) of a tyre (6). Said beads (7) are oversized so that they are partially bearing upon the top side of the rubber band ends, causing thus, while inflating the tyre (6), a pressure of the oversized beads (7) upon the rubber band (3), providing whereby a complete tyre sealing independently of any flaws, recesses or openings which the rim (1) might have.

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The present application refers to a sealing device for tubeless radial spoke wheels.

More particularly, a rim, rubber and tyre unit has been designed in the invention, to allow tube removal in the bicycle radial spoke wheels.

The Spanish utility model No.8600785 of the same applicant is presently already known. This model comprises an improved rim profile by which tubeless tyres can therein be fitted in the motorcycle wheels provided with spokes.

This is achieved by devising an external peripheral fluting located at the profile center and whose defining edges have an elastic belt sealingly fitted thereon, the external communication being sealed through the spoke tensioning nut heads.

Although said prior registration tries to overcome the problem of obtaining bicycle tubeless wheels, there is the disadvantage that to be operative, perfectly finished rims and also those types of rims obtained by welding of the ends to close the ring had to be used. Otherwise, air leakages would probably be caused.

With the device of this invention, all these disadvantages derived from an ill-finished rim, such as its internal roughness, are fully overcome and this device is also allowing to use cost-effective rims, such as those being end-joined with dovetailed members, however without any welding.

The device being the object of the present invention, because of its perfect starting sealing also allows the tyre to be inflated with the conventional air pump, a thing not even possible with the prior system.

Essentially, the surprising sealing obtained with the device of the present invention is characterised by the fact that the sealing between the tyre and the rigidly finished rim structure is made by rubber against rubber contact, without any other material taking part.

Although the device of the invention has mainly been evidently designed for bicycle wheels, this device is also applicable with the same efficiency to any other wheels devised to be tubeless and having air leakages problems envisaged.

To arrive at a more detailed description of the invention, reference will be made to the attached figure showing a preferred embodiment, only by way of a non-exhaustive example.

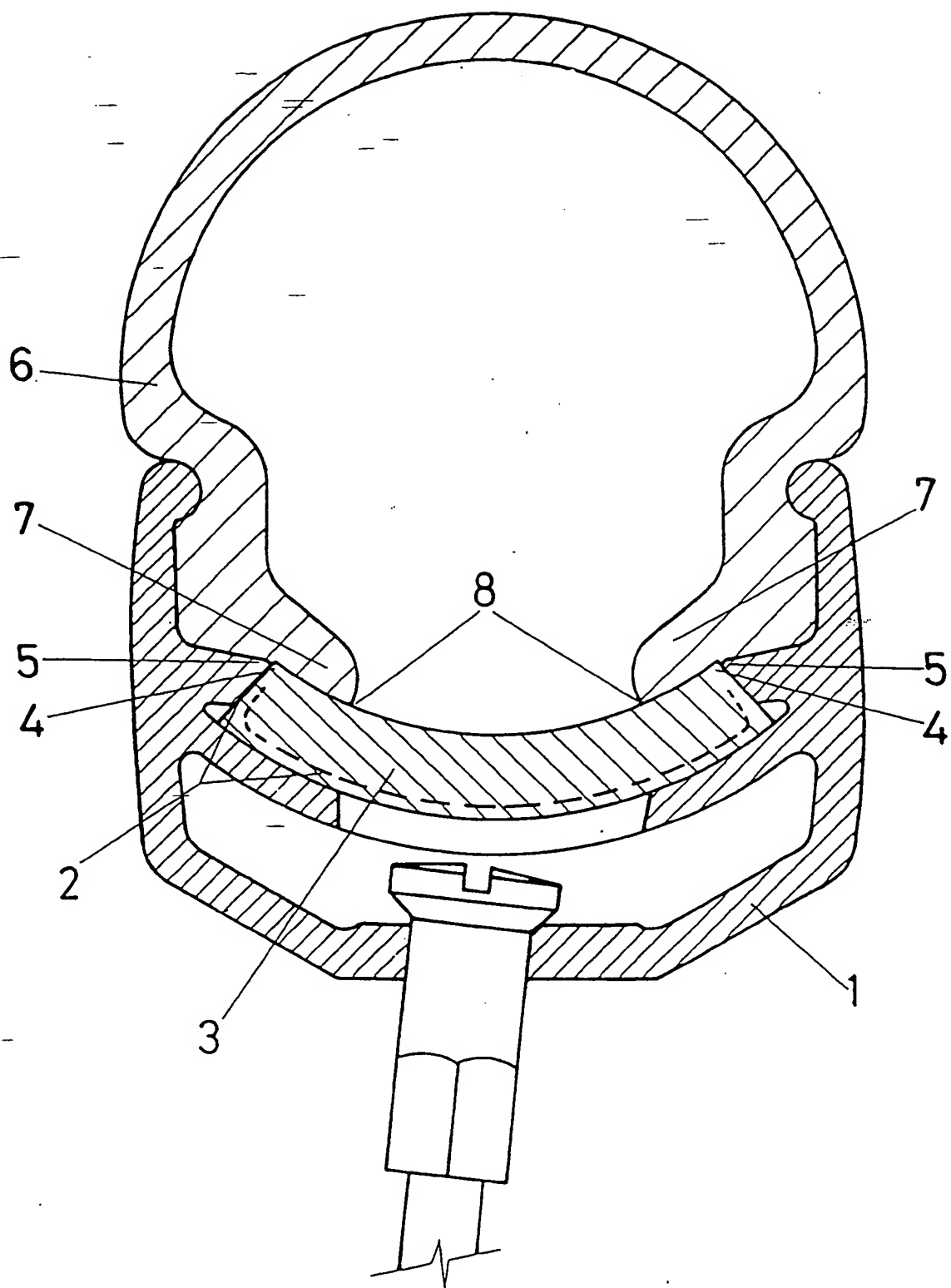
The single figure shows a cross-sectioned profile view of the invention unit, wherein is seen a rim 1 provided with a fluting 2 preferably "dovetailed", whereto a rubber band 3 is housed, The top ends 4 of the band being levelled to the upper portion of some internal projections 5 of the rim 1.

These internal projections 5 make up the seat of some beads 7 shaping up the lower ends of a tubeless designed tyre 6 and which beads 7 have been oversized in a way that the sealing of said

tyre 6 is caused and produced by the pressure of the lower hump 8 of the oversized bead 7 upon the ends 4 of the rubber band 3 incorporated into the fluting 2 of the rim 1.

Claims

1. Sealing device for tubeless radial spoke wheels of the type where the rim (1) is provided with a fluting (2) to receive a rubber band (3), characterised in that the fluting (2) substantially has been envisaged as "dovetailed" and fully stuffed with the rubber band (3) in a way forming a substantially levelled and smoothed top plane with projections (5) internally projecting from the rim (1) and making up the seat of beads (7) of a tyre (6), and in that said beads (7) are oversized so that they are partially bearing upon the top side of the rubber band ends, causing thus, while inflating the tyre (6), a pressure of the oversized beads (7) upon the rubber band (3), providing whereby a complete tyre sealing independently of any flaws, recesses or openings which the rim (1) might have.





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EUROPEAN SEARCH REPORT

Application Number
EP 94 10 3896

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|---|---|---|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.5) |
| A | FR-A-2 426 579 (VELOX) * page 4, line 22 - page 6, line 40; figure * --- | 1 | B60B21/12 |
| A | DE-A-37 27 051 (SUMITOMO RUBBER INDUSTRIES) * page 2, line 43 - page 3, line 60; figures * --- | 1 | |
| A | DE-A-37 15 669 (SUMITO RUBBER INDUSTRIES) * column 1, line 34 - column 3, line 12 * --- | 1 | |
| A | US-A-3 008 770 (MUELLER) * claim 1; figures * ----- | 1 | |
| | | | TECHNICAL FIELDS SEARCHED (Int.Cl.5) |
| | | | B60B B60C |
| The present search report has been drawn up for all claims | | | |
| Place of search THE HAGUE | | Date of completion of the search 24 June 1994 | Examiner Vanneste, M |
| CATEGORY OF CITED DOCUMENTS | | | |
| X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document | | T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons ----- & : member of the same patent family, corresponding document | |